

## **Summary of Cancer Incidence and Mortality for Zip Code 29316 (Boiling Springs, SC)**

### ***Cancer Incidence in Zip Code 29316***

The first step in the analysis of cancer data for zip code 29316 was to look at the number of new cancer cases diagnosed in the zip code and compare this to the number of cancer cases expected (see Table 1). This first step determines if there is anything unusual with cancer patterns in the area. The number of "expected" cancer cases is calculated by using South Carolina cancer rates and applying them to the population of the zip code.

Table 1 shows what types of cancer occurred in zip code 29316 from 1996-2000, and how many cancer cases were expected. Overall, there were fewer cases of cancer than expected. A total of 240 new cases of cancer occurred in the zip code, while 292 cases were expected. The most common types of cancer diagnosed in zip code 29316 were prostate, lung/bronchus, female breast and colon/rectum. These are also the most common types of cancer diagnosed in South Carolina. The analysis did reveal any specific type of cancer where the number of cases was significantly higher than expected.

Zip code 29316 is a relatively small zip code. Therefore, the number of cases occurring in some cancer sites was very small. We must use caution when analyzing small numbers. As a general rule, a cancer site with 5 or more expected cases will be analyzed; below that the numbers are considered too small to be reliable. The remaining cancer cases that occurred in zip code 29316 occurred in sites where fewer than 5 cases of cancer were expected. Therefore, these sites were not analyzed and were excluded from Table 1.

### ***Cancer Deaths in Zip Code 29316***

To assess cancer deaths in this zip code, cancer mortality data from 1998-2002 were used. The same process used to analyze new cancer cases was also used to analyze cancer deaths. Table 2 shows the number of cancer deaths that occurred and the number expected in the zip code. A total of 120 cancer deaths occurred in this zip code, while 129 deaths were expected. Therefore, there were fewer cancer deaths than expected.

The analysis did not reveal any specific types of cancer where the number of cancer deaths was significantly higher than expected. Other types of cancer death did occur; however, these cancer deaths occurred in sites where fewer than 5 cancer deaths were expected. Therefore, these sites were not analyzed and were excluded from Table 2.

### ***Conclusions***

To summarize, fewer cancer cases and cancer deaths occurred in zip code 29316 than expected. The most commonly occurring cancer types were the same as in the state. There were no specific types of cancer with a significantly higher number of cases or deaths occurring than expected.

In order for a true cancer cluster to exist, the number of cancers occurring must be more than would be expected by chance. Along with statistical testing, there are several other criteria that determine whether a true cancer cluster exists. First, a cancer cluster would more likely involve rarer types of cancer rather than more common cancers like lung or prostate cancers. Also, a cancer cluster would occur with one specific type of cancer rather than having excesses in several different types of cancer.

Taking all these criteria into consideration, the South Carolina Central Cancer Registry determined there is no evidence of cancer clustering in zip code 29316.

***Report provided by:***

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Information on cancer incidence provided by the SC Central Cancer Registry, Office of Public Health Statistics and Information Services, SC Dept. of Health and Environmental Control.

Information on cancer mortality provided by the Division of Vital Records and the Division of Biostatistics, SC Dept. of Health and Environmental Control.

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**Table 1. Analysis of New Cancer Cases in Zip Code 29316, 1996-2000**

<b>Site</b>	<b>Observed</b>	<b>Expected</b>	<b>Observed/Expected</b>	<b>Chi-SquareTest*</b>
Prostate	38	47.75	0.80	1.99
Lung/Bronchus	42	45.19	0.93	0.23
Breast (Female)	41	44.06	0.93	0.21
Colon/Rectum	24	32.17	0.75	2.08
Melanoma	6	10.87	0.55	2.19
Bladder	10	10.81	0.93	0.06
Non-Hodgkin Lymphoma	8	9.55	0.84	0.25
Oral/Pharynx	12	8.72	1.38	1.23
Kidney/Renal Pelvis	6	7.53	0.80	0.31
Uterus	4	7.05	0.57	1.32
Pancreas	1	6.15	0.16	4.32
Leukemia	2	5.60	0.36	2.32
Unknown/III-Defined	7	NA	NA	NA
All Sites	240	291.12	0.82	8.98

**Table 2. Analysis of Cancer Deaths in Zip Code 29316, 1998-2002**

<b>Site</b>	<b>Observed</b>	<b>Expected</b>	<b>Observed/Expected</b>	<b>Chi-SquareTest*</b>
Lung/Bronchus	41	38.47	1.07	0.17
Colon/Rectum	14	12.40	1.13	0.21
Female Breast	9	9.72	0.93	0.05
Prostate	3	8.01	0.37	3.14
Unknown/III-Defined	6	7.65	0.78	0.36
Pancreas	4	6.94	0.58	1.25
All Sites	120	128.74	0.93	0.59

Excludes in situ cases of cancer to allow for comparison.

Cancer sites with less than 5 cases of cancer expected are not analyzed due to the unreliability of statistical tests based on small numbers. These sites have been removed from this table.

\*The Chi-Square statistical test allows us to determine if the difference between what is observed and what is expected is significant. If the value is greater than 3.84, then we are 95% confident that the observed number of cases is significantly different from the expected number of cases.

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